

JOHNSON
App. Ser. No. 09/802,449
Page 2 of 11

Amendments to the claims:

1. (currently amended) A button assembly comprising:

a first cantilevered beam (30) having a first end and a second end, the first end being flexibly attached to a housing of an electronic input device through a first fulcrum (28) at the first end so as to provide a first selected spring constant;

a second cantilevered beam (36) having

~~an exposed button portion (37), the second cantilevered beam being flexibly attached to the first cantilevered beam through; and~~

~~a second fulcrum (32) supporting the second cantilevered beam from the second end of the first cantilevered beam so as to provide a second spring constant.~~

2. (previously presented) The button assembly of claim 1 wherein the first fulcrum comprises a first flexible hinge and the second fulcrum comprises a second flexible hinge flexibly attaching the second cantilevered beam to the second end of the first cantilevered beam.

3. (previously presented) A button assembly comprising:

a first cantilevered beam (30) having a first end and a second end, the first end being movably coupled to an electronic input device through a first fulcrum (28) at the first end;

a second cantilevered beam (36) having

~~an exposed button portion (37), the second cantilevered beam being movably coupled to the first cantilevered beam through a second fulcrum (32); and~~

~~a plunger (20') attached to the second cantilevered beam and extending from the second cantilevered beam through the first cantilevered beam between the first end and the second end of the first cantilevered beam.~~

JOHNSON
App. Ser. No. 09/802,449
Page 3 of 11

4. (original) The button assembly of claim 3 wherein the button assembly is molded from plastic as a single piece.

5. (original) A computer pointing input device comprising:

a housing;
a palm portion of the housing configured to receive a user's hand;
a distal portion of the housing extending generally away from the palm portion; and
a switch button having a palm end and a distal end, the switch button being configured to actuate an electronic switch within the computer pointing input device upon application of sufficient force to the switch button by the user, the switch button being movably coupled to the housing so as to move about a fulcrum, the fulcrum being nearer to the distal end than to the palm end of the switch button.

6. (original) The computer pointing input device of claim 5 wherein a first force is required to be applied to the switch button to actuate the electronic switch at the distal end and a second force is required to be applied to the switch button to actuate the electronic switch at the palm end, the first force being greater than the second force.

7. (currently amended) ~~The computer pointing input device of claim 6 A~~
A computer pointing input device comprising:

a housing;
a palm portion of the housing configured to receive a user's hand;
a distal portion of the housing extending generally away from the palm portion; and
a switch button having a palm end and a distal end, the switch button being configured to actuate an electronic switch within the computer pointing input device upon application of sufficient force to the switch button by the user, the switch button being movably coupled to the housing so as to move about a fulcrum, the fulcrum being nearer to the distal end than to the palm end of the switch button, wherein a first force is required to be applied to the switch button to actuate the electronic switch

JOHNSON
App. Ser. No. 09/802,449
Page 4 of 11

at the distal end and a second force is required to be applied to the switch button to actuate the electronic switch at the palm end, the first force being greater than the second force the first force is at least two times greater than the second force and a distance from the palm end of the switch button to the distal end of the switch button is at least 3 cm.

8. (original) The computer pointing input device of claim 7 wherein the first force is about 1 Newton and the second force is about 0.5 Newtons.

9. (previously presented) The computer pointing input device of claim 5 further comprising:

a spring beam having a first end and a second end, the spring beam being coupled to the switch button through the fulcrum at the first end and being coupled to the housing at the second end through

a second fulcrum.

10. (original) The computer pointing device of claim 9 wherein a first force is required to be applied to the switch button to actuate the electronic switch at the distal end and a second force is required to be applied to the switch button to actuate the electronic switch at the palm end, the first force being greater than the second force.

11. (currently amended) The computer pointing device of claim 9 A computer pointing input device comprising:

a housing;

a palm portion of the housing configured to receive a user's hand;

a distal portion of the housing extending generally away from the palm portion; and

a switch button having a palm end and a distal end, the switch button being configured to actuate an electronic switch within the computer pointing input device upon application of sufficient force to the switch button by the user, the switch button being movably coupled to the housing so as to move about a fulcrum, the fulcrum being nearer to the distal end than to the palm end of the switch button;

JOHNSON
App. Ser. No. 09/802,449
Page 5 of 11

a spring beam having a first end and a second end, the spring beam being coupled to the switch button through the fulcrum at the first end and being coupled to the housing at the second end through

a second fulcrum, wherein the first force is at least two times greater than the second force and a distance from the palm end of the switch button to the distal end of the switch button is at least 3 cm.

12. (original) The computer pointing input device of claim 11 wherein the first force is about 1.2 Newtons and the second force is about 0.6 Newtons.

13. (currently amended) The computer pointing device of claim 9 A computer pointing input device comprising:

a housing;

a palm portion of the housing configured to receive a user's hand;

a distal portion of the housing extending generally away from the palm portion; and

a switch button having a palm end and a distal end, the switch button being configured to actuate an electronic switch within the computer pointing input device upon application of sufficient force to the switch button by the user, the switch button being movably coupled to the housing so as to move about a fulcrum, the fulcrum being nearer to the distal end than to the palm end of the switch button;

a spring beam having a first end and a second end, the spring beam being coupled to the switch button through the fulcrum at the first end and being coupled to the housing at the second end through

a second fulcrum, wherein a first force is required to be applied to the switch button to actuate the electronic switch at the distal end and a second force is required to be applied to the switch button to actuate the electronic switch at the palm end, a difference between the first force and the second force being equal to or less than 0.15 Newtons, wherein a distance from the distal end of the switch button and the palm end of the switch button is at least 3 cm.

JOHNSON
App. Ser. No. 09/802,449
Page 6 of 11

14. (previously presented) The computer pointing device of claim 13 wherein the first force is between about 0.5-0.7 Newtons and the second force is between about 0.5-0.7 Newtons.

15. (currently amended) A computer pointing input device comprising:

a housing;

a palm portion of the housing configured to receive a user's hand;

a spring beam having a first end and a second end; flexibly attached to the housing through

a first fulcrum flexibly attaching the first end of the spring beam to the housing so as to provide a first selected spring constant;

a switch button having a palm end and a finger end, the switch button being flexibly coupled to the second end of the spring beam through

a second fulcrum, the second fulcrum being nearer to the finger end of the switch button than to the palm end of the switch button so as to provide a second selected spring constant;

a plunger coupled to extending from the switch button and extending toward

an electronic switch, the plunger being configured to actuate the electronic switch upon application of a sufficient force to the switch button by the user.

16. (previously presented) A computer pointing input device comprising:

a housing;

a palm portion of the housing configured to receive a user's hand;

a spring beam flexibly coupled to the housing through

a first fulcrum;

a switch button having a palm end and a finger end, the switch button being flexibly coupled to the spring beam through

a second fulcrum, the second fulcrum being nearer to the finger end of the switch button than to the palm end of the switch button;

JOHNSON
App. Ser. No. 09/802,449
Page 7 of 11

a plunger coupled to the switch button and extending toward an electronic switch, the plunger being configured to actuate the electronic switch upon application of a sufficient force to the switch button by the user, wherein the plunger extends through the spring beam between the first fulcrum and the second fulcrum.

17. (currently amended) ~~The computer pointing device of claim 15-~~ A computer pointing input device comprising:

a housing;
a palm portion of the housing configured to receive a user's hand;
a spring beam flexibly attached to the housing through
a first fulcrum;
a switch button having a palm end and a finger end, the switch button
being flexibly coupled to the spring beam through
a second fulcrum, the second fulcrum being nearer to the finger end of the
switch button than to the palm end of the switch button;
a plunger coupled to the switch button and extending toward
an electronic switch, the plunger being configured to actuate the electronic
switch upon application of a sufficient force to the switch button by the user wherein a distance between the finger end of the switch button and the palm end of the switch button is about 3 cm and the sufficient force varies from a first force at the finger end of the switch button to a second force at the palm end of the switch button, the first force being greater than the second force by a factor of about two.

18. (original) The computer pointing device of claim 17 wherein the first force is less than about 1.2 Newtons and the second force is less than about 0.6 Newtons.

19. (original) The computer pointing device of claim 15 wherein the computer pointing device is a computer mouse.

20. (currently amended) A computer pointing input device comprising:

JOHNSON
App. Ser. No. 09/802,449
Page 8 of 11

a housing;
a palm portion of the housing configured to receive a user's hand;
a spring beam having a first end and a second end; flexibly coupled to the housing through

a first fulcrum flexibly coupling the first end of the spring beam to the housing so as to provide a first selected spring constant;

a switch button having a palm end and a finger end, the switch button being flexibly coupled to the second end of the spring beam through

a second fulcrum, the second fulcrum being nearer to the finger end of the switch button than to the palm end of the switch button so as to provide a second selected spring constant;

a plunger coupled to extending from the switch button and extending toward

an electronic switch, the plunger being configured to actuate the electronic switch upon application of a sufficient force to the switch button by the user, wherein the spring beam has a first end and a second end, the first fulcrum flexibly coupling the spring beam to the housing at the first end of the spring beam and the second fulcrum flexibly coupling the spring beam to the switch button at the second end of the spring beam.

21. (previously presented) The computer pointing input device of claim 5 wherein the fulcrum flexibly attaches the switch button to the housing.